

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. **(Currently amended)** A wireless LAN₁ comprising:

an access point,

at least one communications device, and

a controller,

the access point including a data communicator for communicating data with ~~said at least one the~~
~~or each mobile~~ communications device over downlink and uplink channels ~~each of which uses a~~
~~respective~~ using different first and second wireless technology technologies, respectively,

said at least one ~~mobile~~ communications device including a further data communicator for
communicating data with said access point over said downlink and uplink channels ~~and for~~ using
said first and second wireless technologies, respectively,

wherein a first of the channels is ~~arranged to use a wireless technology operating at a first~~
~~frequency bandwidth, and a second of the channels is arranged to use a different wireless~~
~~technology operating at a second, non-overlapping frequency bandwidth, wherein~~

the first wireless technology arranged to be used for the downlink channel is arranged to operate
at a first frequency bandwidth and at a first a higher data rate, [[than]]

the second wireless technology arranged to be used for the uplink channel is arranged to operate at a second frequency bandwidth non-overlapping with the first frequency bandwidth, and at a second data rate lower than the first data rate, and wherein

the controller is arranged for controlling data communications over the downlink channel and the uplink channel to ~~maximise~~ maximize the QoS of downlink data communication.

2. (Original) A wireless LAN as claimed in claim 1, wherein each of the wireless technologies is one of 802.11a, 802.11b, Hiperlan/2, Bluetooth or Home RF.

3. (Currently amended) A wireless LAN as claimed in claim 1, wherein said at least one ~~mobile~~ communications device is arranged to transmit a service request signal on the uplink channel, and the controller is arranged to control the bandwidth on the downlink channel to said at least one a given mobile communications device in response to ~~[[a]] the~~ service request signal received from that device.

4. (Currently amended) A method of controlling data communications in a wireless LAN including an access point and a given at least one mobile communications device, the method comprising steps of:

~~[[a]]~~ directly communicating data from the access point to ~~[[a]] the~~ given mobile communications device on a downlink channel using a first wireless technology;

[[b)]] directly communicating data from the given mobile communications device to the access point on an uplink channel using a second wireless technology; the first and second wireless technologies being different wireless technologies, operating at non-overlapping first and second frequency bandwidths, respectively, the first wireless technology operating at a faster data rate than the second wireless technology; and

[[c)]] controlling data communications over the downlink channel and the uplink channel to ~~maximise~~ maximize the QoS of downlink data communication.

5. (Original) A method as claimed in claim 4, wherein the data communicated from the given mobile communications device to the access point includes a service request.

6. (Currently amended) A method as claimed in claim 5, further comprising controlling the bandwidth on the downlink channel in response to [[a)] the service request sent by the given mobile communications device.

7. (Currently amended) A method as claimed in claim [[4)] 5, wherein the data communicated from the given mobile communications device to the access point further includes uplink control signals.

8. (Original) A method as claimed in claim 4, further comprising controlling data communications so that any spare capacity on the uplink channel is used for downloading data from the access point to the given mobile communications device.

9. (Original) A method as claimed in claim 4, further comprising controlling data communications so that each of the wireless technologies is used for both uploading and downloading data to and from the access point.

10. (Currently amended) A wireless LAN_i comprising:
an access point,
at least one mobile communications device, and
a controller,
the access point including a transceiver for direct data communication with said at least one mobile communications device over downlink and uplink channels ~~each of which is arranged to use a respective~~ different first and second wireless technology technologies, respectively,
said at least one mobile communications device including a respective transceiver for direct data communication with said access point over said downlink and uplink channels using and ~~arranged to use~~ said first and second wireless technologies, respectively,

wherein a first of the channels is ~~arranged to use a wireless technology operating at a first frequency bandwidth, and a second of the channels is arranged to use a different wireless technology arranged to operate at a second, non-overlapping frequency bandwidth, wherein~~ the first wireless technology used for the downlink channel is arranged to operate at a first frequency bandwidth and at a first ~~a higher~~ data rate, ~~[[than]]~~

the second wireless technology used for the uplink channel is arranged to operate at a second frequency bandwidth non-overlapping with the first frequency bandwidth, and at a second data rate lower than the first data rate, and ~~wherein~~

the controller is arranged to control data communications over the downlink channel and the uplink channel to ~~maximise~~ maximize the QoS of downlink data communication.

11. (Currently amended) A method of controlling data communications in a wireless LAN including an access point and a given ~~at least one~~ mobile communications device, the method comprising steps of:

[[a]] directly communicating data from the access point to [[a]] the given mobile communications device on a downlink channel using a first wireless technology;

[[b]] directly communicating data from the given mobile communications device to the access point on an uplink channel using a second wireless technology; the first and second wireless technologies being different wireless technologies, operating at non-overlapping first and second frequency bandwidths, respectively, the first wireless technology operating at a faster data rate than the second wireless technology; and

[[c)]] controlling data communications over the downlink channel and the uplink channel to ~~maximise~~ maximize the QoS of downlink data communication,

wherein the data communicated from the given mobile communications device to the access point includes a service request signal, and said method further comprises controlling the bandwidth of the downlink channel in response to [[a]] the service request signal sent by the given mobile communications device.

12. **(Currently amended)** A wireless LAN_i comprising:

an access point,

at least one mobile communications device, and

a controller,

the access point including a transceiver for direct data communication with said at least one mobile communications device over downlink and uplink channels using different first and second each of which uses a respective wireless technology technologies, respectively,

said at least one mobile communications device including a respective transceiver for direct data communication with said access point over said downlink and uplink channels and arranged to use said first and second wireless technologies, respectively,

wherein ~~a first of the channels uses a wireless technology is arranged to operate at a first frequency bandwidth, and a second of the channels is arranged to use a different wireless technology arranged to operate at a second, non-overlapping frequency bandwidth, wherein~~

the first wireless technology arranged to be used for the downlink channel is arranged to operate at a first frequency bandwidth and at a first ~~a higher~~ data rate, [[than]]

the second wireless technology arranged to be used for the uplink channel is arranged to operate at a second frequency bandwidth non-overlapping with the first frequency bandwidth, and at a second data rate lower than the first data rate, wherein

the controller is arranged to control data communications over the downlink channel and the uplink channel to ~~maximise~~ maximize the QoS of downlink data communication, and ~~wherein~~ said at least one mobile communications device is arranged to transmit a service request signal on the uplink channel, and the controller is arranged to control the bandwidth on the downlink channel to said at least one ~~a given~~ mobile communications device in response to [[a]] the service request signal received from that device.

13. (New) A method as claimed in claim 4, wherein data is communicated between the access point and the given mobile communications device simultaneously on both said downlink and uplink channels.

14. (New) A method as claimed in claim 8, wherein data is communicated between the access point and the given mobile communications device simultaneously on both said downlink and uplink channels.

15. (New) A method as claimed in claim 14, wherein data is downloaded from the access point to the given mobile communications device simultaneously on both said downlink and uplink channels, using an entire capacity of said downlink channel and the spare capacity of the uplink channel;

a remaining capacity of the uplink channel being simultaneously used for uploading data from the given mobile communications device to the access point.

16. (New) A method as claimed in claim 14, further comprising controlling data communications so that each of the wireless technologies is used for both uploading and downloading data to and from the access point.

17. (New) A wireless LAN as claimed in claim 2, wherein said controller is an integral part of the access point.

18. (New) A wireless LAN as claimed in claim 1, wherein said at least one communications device comprises different first and second antennas and the further data communicator of said at least one communications device comprises different first and second sections coupled with said first and second antennas, respectively, for handling data communications using said first and second wireless technologies, respectively.

19. **(New)** A wireless LAN as claimed in claim 10, wherein said at least one mobile communications device comprises different first and second antennas and the respective transceiver of said at least one mobile communications device comprises different first and second transceiver sections coupled with said first and second antennas, respectively, for handling data communications using said first and second wireless technologies, respectively.

20. **(New)** A wireless LAN as claimed in claim 12, wherein said at least one mobile communications device comprises different first and second antennas and the respective transceiver of said at least one mobile communications device comprises different first and second transceiver sections coupled with said first and second antennas, respectively, for handling data communications using said first and second wireless technologies, respectively.